

## CELANEX® 1642Z - PBT

### Description

Celanex 1642Z is a general purpose, 20% fiberglass reinforced PBT with a good balance of mechanical properties and processability.

| Physical properties         | Value     | Unit              | Test Standard   |
|-----------------------------|-----------|-------------------|-----------------|
| Density                     | 1450      | kg/m <sup>3</sup> | ISO 1183        |
| Melt flow rate, MFR         | 9         | g/10min           | ISO 1133        |
| MFR temperature             | 250       | °C                | ISO 1133        |
| MFR load                    | 2.16      | kg                | ISO 1133        |
| Molding shrinkage, parallel | 0.4 - 0.7 | %                 | ISO 294-4, 2577 |
| Molding shrinkage, normal   | 1.0 - 1.2 | %                 | ISO 294-4, 2577 |
| Water absorption, 23°C-sat  | 0.1       | %                 | ISO 62          |

| Mechanical properties                | Value | Unit              | Test Standard |
|--------------------------------------|-------|-------------------|---------------|
| Tensile modulus                      | 6250  | MPa               | ISO 527-2/1A  |
| Tensile stress at break, 5mm/min     | 105   | MPa               | ISO 527-2/1A  |
| Tensile strain at break, 5mm/min     | 4     | %                 | ISO 527-2/1A  |
| Flexural modulus, 23°C               | 5500  | MPa               | ISO 178       |
| Flexural strength, 23°C              | 170   | MPa               | ISO 178       |
| Charpy notched impact strength, 23°C | 6.3   | kJ/m <sup>2</sup> | ISO 179/1eA   |
| Izod impact notched, 23°C            | 7.5   | kJ/m <sup>2</sup> | ISO 180/1A    |

| Thermal properties                         | Value | Unit   | Test Standard |
|--------------------------------------------|-------|--------|---------------|
| Coeff. of linear therm expansion, parallel | 0.31  | E-4/°C | ISO 11359-2   |
| Coeff. of linear therm expansion, normal   | 1.2   | E-4/°C | ISO 11359-2   |

### Typical injection moulding processing conditions

| Temperature              | Value     | Unit | Test Standard |
|--------------------------|-----------|------|---------------|
| Hopper temperature       | 20 - 50   | °C   | -             |
| Feeding zone temperature | 230 - 240 | °C   | -             |
| Zone1 temperature        | 230 - 240 | °C   | -             |
| Zone2 temperature        | 235 - 250 | °C   | -             |
| Zone3 temperature        | 235 - 250 | °C   | -             |
| Zone4 temperature        | 240 - 260 | °C   | -             |
| Nozzle temperature       | 250 - 260 | °C   | -             |
| Melt temperature         | 235 - 260 | °C   | -             |
| Mold temperature         | 65 - 93   | °C   | -             |
| Hot runner temperature   | 250 - 260 | °C   | -             |
| Pressure                 | Value     | Unit | Test Standard |
| Back pressure max.       | 3.5       | bar  | -             |

### Other text information

#### Pre-drying

To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0.02% prior to processing. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C). Typical drying conditions are 250°F (121°C) for 4 hours. For subsequent storage of material in the dryer until processed, drying temperature should be lowered to 100 deg C and material should not kept in dryer for more than 60 hrs..

#### Injection molding

Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided. Up to 25% clean and dry regrind may be used.

CELANEX® 1642Z - PBT

Characteristics

Special Characteristics

High viscosity

Processing

Injection molding

Product Categories

Glass reinforced

Delivery Form

Pellets